

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau(43) International Publication Date  
13 May 2004 (13.05.2004)

PCT

(10) International Publication Number  
**WO 2004/039482 A2**(51) International Patent Classification<sup>7</sup>: **B01F 3/00**(21) International Application Number:  
PCT/CA2003/001651

(22) International Filing Date: 30 October 2003 (30.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/422,490 31 October 2002 (31.10.2002) US

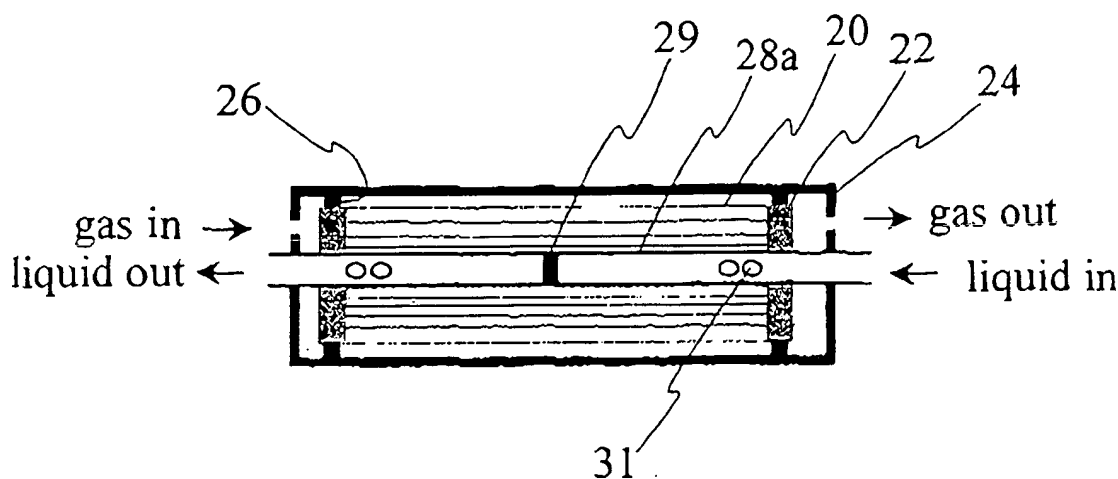
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B, Ottawa, Ontario K1P 5R3 (CA).(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,  
CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,  
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,  
US, UZ, VC, VN, YU, ZW.(84) Designated States (*regional*): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished  
upon receipt of that reportFor two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: CONTROLLED ATMOSPHERE GAS INFUSION



(57) Abstract: The invention disclosed relates to a method and apparatus for controlling the dissolved gas content of an aqueous liquid containing a dissolved gas by providing a microporous hydrophobic hollow fibre membrane, to provide at equilibrium a stable interface between an aqueous liquid phase containing dissolved gas on one side of the membrane and a gaseous phase on the other side of the membrane, and controlling the aqueous phase and gaseous phase pressures, such that in operation the gaseous phase pressure is up to but not exceeding the aqueous phase pressure, and flowing the gaseous and liquid phases across the membrane, to provide simultaneous mass transfer through the membrane of a first gas in the gaseous phase into the liquid phase and of a second gas dissolved in the aqueous liquid into the gaseous phase, whereby the gas content of the first gas in the aqueous phase is increased, the gas content of the second gas in the gaseous phase is decreased and the total dissolved gas pressure(TG) of the aqueous phase is altered.

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533085

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PCT

(10) International Publication Number  
**WO 2004/039482 A3**

(51) International Patent Classification<sup>7</sup>: C02F 3/20,  
B01F 3/04

(21) International Application Number:  
PCT/CA2003/001651

(22) International Filing Date: 30 October 2003 (30.10.2003)

(25) Filing Language: English

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SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
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(CA).

Published:  
— with international search report

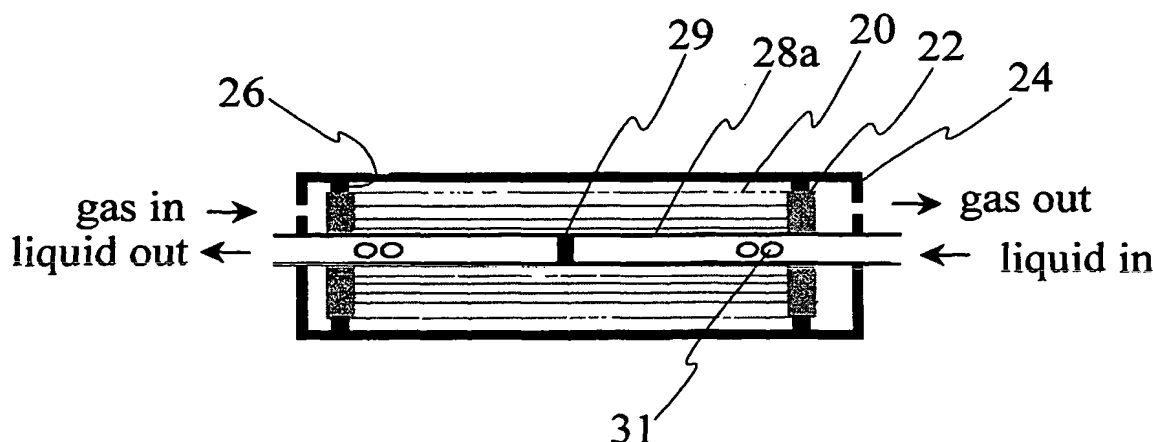
(74) Agent: ANDERSON, J., Wayne; P.O. Box 1266, Station  
B, Ottawa, Ontario K1P 5R3 (CA).

(88) Date of publication of the international search report:  
29 July 2004

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 03/01651

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C02F3/20 B01F3/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C02F B01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 2 025 256 A (MITSUBISHI RAYON CO., LTD.) 23 January 1980 (1980-01-23) page 4, lines 3-21, 71-78; claims; figures	1-14
Y	US 6 209 855 B1 (C.L. GLASSFORD) 3 April 2001 (2001-04-03) cited in the application claims; figures	1-14
Y	PATENT ABSTRACTS OF JAPAN vol. 0130, no. 69 (C-569), 16 February 1989 (1989-02-16) & JP 63 258605 A (DAINIPPON INK & CHEM INC), 26 October 1988 (1988-10-26) abstract	1-14
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Date of the actual completion of the international search

23 April 2004

Date of mailing of the international search report

03/05/2004

Name and mailing address of the ISA

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Cordero Alvarez, M

# INTERNATIONAL SEARCH REPORT

Int. Application No

PCT/CA 03/01651

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	T.AHMED ET AL: "use of transverse flow hollow fibers for bubbleless membrane aeration" WAT.RES., vol. 30, no. 2, 1996, pages 440-446, XP0004035072 the whole document	1,9
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Information on patent family members

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